6th GRADE
MAIN RANGEFINDER
4

It is important that you show or explain how you solved the problems on this assessment. If you use a calculator, show how you set up the math.

1. You are going to make a green salad to take to a dinner party. The prices of the ingredients are below.

Lettuce	**2 bunches cost**	**$1.00**
Radishes	**3 bunches cost**	**$0.92**
Cucumbers	**each**	**$0.58**

a. How much will it cost to make a salad with 4 bunches of lettuce, 3 bunches of radishes, and 2 cucumbers? *Show or explain how you found your answer.*

It will cost $4.08

$1.16
$2.00
+$0.92
$4.08

2 cucumbers = $1.16
1 cucumber = $0.58
$0.58
+$0.58
$1.16

two bunches of lettuce = $1.00
4 bunches of lettuce = $2.00
$1.00
+$1.00
$2.00

3 bunches of radishes = $0.92

b. How much change will you get back if you pay with a ten-dollar bill? *Show or explain how you found your* answer.

You will get $5.92 back

$10.00
−$4.08
$5.92

Minimal or non-existent errors

c. There were a total of 12 people at the dinner party. If there is enough salad for each person to have a serving, how much will each serving cost? *Show or explain how you found your answer.*

Each serving will cost $0.34

.34
12 | 4.08
−36
48
−48
0

12 × 4 = 48
12 × 3 = 36

d. One of the guests took 1/9 of the salad. Another guest took 2/9 of the salad. What fraction of the salad was taken? *Show or explain how you found your answer.*

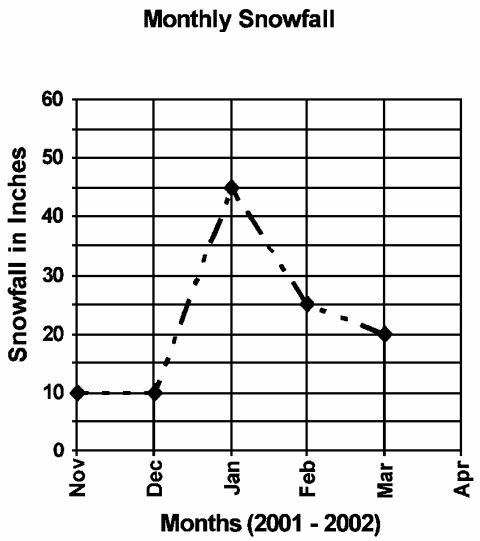
$\frac{1}{3}$ of the salad was taken

$\frac{1}{9} + \frac{2}{9} = \frac{3}{9} \div 3 = \frac{1}{3}$

Advanced understanding of situation

Read problems 2, 3, 4, and 5 on this and the next two pages.
Select three problems to answer. Answer ALL of the parts of the three problems you select to answer.
Cross out the one problem that you do not choose to answer.

2. At Black Bear Mountain Ski Area the monthly snowfalls are shown in the following graph.



a. Use the information in the graph to find the mean (average) snowfall for the 5 months shown. *Show or explain how you found your answer.*

The average snowfall is 22 inches

10 in.
10 in.
45 in.
25 in.
+ 20 in.
110

5)110 ×22 inches
−10
10
−10
0

Advanced use of communication skills

b. Use the information in the graph to find the median, mode, and range of the monthly snowfall. *Show or explain how you found your answer.*

The median is 20 inches, the mode is 10 inches, and the range is 35 inches

10, 10, 20, 25, 45
median = 20 in.
10, 10, 20, 25, 45
mode = 10 in.
45 − 10 = 35
range = 35 in.

c. Using the information in the graph, predict the monthly snowfall for April and add it to the graph. *Justify (explain) your prediction.*

I predict 10 inches of snowfall because the month of April is Springtime, and less snow should be coming in Spring.

3. Sue is earning money for summer camp. She does chores for her neighbors and charges $3.50 per hour.

c. In the chart below **n** represents the number of hours she worked at each job. Complete the chart to show how much money she earned at each job. *Show or explain how you found your answer.*

	Hours	Earnings per Job
	n	$3.50 x **n** = ?
Job 1	3	$3.50 · 3 = $10.50
Job 2	2	$3.50 · 2 = $7.00
Job 3	1	$3.50 · 1 = $3.50
Job 4	4	$3.50 · 4 = $14.00
Job 5	4	$3.50 · 4 = $14.00
Job 6	3	$3.50 · 3 = $10.50

$3.50 x 3 hours = $10.50

$3.50 x 2 hours = $7.00

$3.50 x 1 hour = $3.50

$3.50 x 4 hours = $14.00

b. What is the total amount Sue has earned for summer camp? *Show or explain how you found your answer.*

Sue has earned $59.50 for summer camp

$10.50 + $7.00 + $3.50 + $14.00 + $14.00 = $49.00

$49.00 + $10.50 = $59.50

c. Let **n** represent the number of hours Sue works. If the camp costs $126.00, write an equation, **using n**, to show how many more hours she needs to work to pay for camp. Solve the equation. *Show or explain how you found your answer.*

$3.50n = $66.50

$3.50 x 14 = 1400 + 350 = 49.00

$126.00 − $59.50 = $66.50

Advanced understanding of situation

4. The Appaloosa Middle School basketball team practices each week on Monday, Tuesday, and Wednesday for 2 ½ hours after school.

Innovation and creativity

a. If practice begins at 3:15 PM, what time does practice finish? *Show or explain how you found your answer.*

Practice ends at 5:45 PM

3:15 + 2:30 = 5:45 PM

2 ½ hours = 2 hours 30 minutes

b. What is the total time they practice each week? *Show or explain how you found your answer.*

They practice 7 hours and 30 minutes each week

2:30 + 2:30 + 2:30 = 6:90

1 hr 90 minutes − 60 minutes = 1 hr 30 minutes

c. If students are required to practice for 10 hours before they may play in their first game, how many days will they have to practice before they qualify to play? *Show or explain how you found your answer.*

They will have to practice 4 days

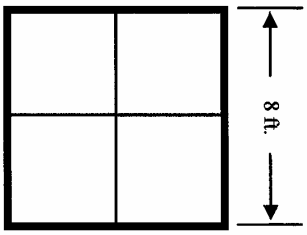
7 hrs 30 mins = 3 days

9 hrs 60 mins = 10 hrs

7 hrs 30 mins + 2 hrs 30 mins = 9 hrs 60 mins

10 hrs = 4 days

5. The side length of a four-square court measures 8 ft.



a. What is the perimeter of the four-square court? *Show or explain how you found your answer.*

The perimiter of the four-square court is 32 ft

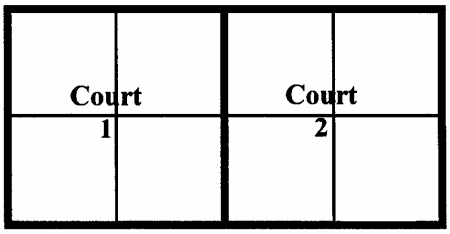
8 ft
× 4
32 ft

Appropriate processes accurately completed

a. What would be the perimeter of the rectangle formed by 2 four-square courts if they shared one side? *Show or explain how you found your answer.*

The perimiter of the rectangle is 48 ft

8 ft + 8 ft = 16 ft
16 ft × 2 = 32 ft
8 ft × 2 = 16 ft
32 ft + 16 ft = 48 ft



b. What would be the area (in ft^2)? *Show or explain how you found your answer?*

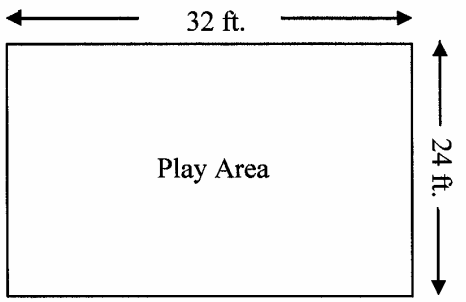
The area is 512 ft^2 for the rectangle, the area is 64 ft^2 for the square

32 ft × 16 ft
192
+ 320
512 ft^2

8 ft × 8 ft
64 ft^2

Advanced use of symbols

d. If the play area measures 32 ft. x 24 ft., how many individual four-square courts can you fit into the area if they could share any number of sides? *Show or explain how you found your answer.*



You can fit 12 four-square courts in the area

32 ft × 24 ft
128
+ 640
768 ft^2

12
64 | 768
64
128
128
0

64 × 2 = 128

Higher-order thinking skills (analysis, synthesis, and evaluation)